

Exhibit A

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February 19, 2016

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Erin Alper
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Re: *TiVo v. Samsung*, No. 2:15-cv-1503 (E.D. Tex.)

Dear Tom:

I write on behalf of Defendants Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc. (collectively “Samsung” or “Defendants”) regarding TiVo’s P.R. 3-1 Disclosure of Infringement Contentions served on February 8, 2016.

TiVo’s infringement contentions are generally vague and replete with deficiencies, examples of which are provided below. We expect these issues to be cured as soon as possible in light of the upcoming P.R. 3-3 Invalidity Contentions, P.R. 3-4 Document Production, and the start of the claim construction exchange process. TiVo’s failure to provide reasonable notice of its infringement contentions not only prejudices Samsung’s ability to develop its invalidity defenses and proposed claim constructions, but also inhibits Samsung’s ability to reasonably identify and produce potentially relevant source code and other technical documentation as required by P.R. 3-4(a).

Accused Products

P.R. 3-1(b) requires that TiVo’s identification of each Accused Instrumentality “be as specific as possible,” including identification by “name or model number.” TiVo’s infringement contentions identify as Accused Instrumentalities Samsung “set top boxes with DVR functionality bearing the model designations SMT-H3090HD DVR, SMT-H3272, SMTH3270, and SMT-H4372 and other DVRs having the same or similar functionality.” As TiVo is aware from at least the material that TiVo cites in the accompanying claim charts, these set-top boxes are available via Time Warner Cable.

We note that TiVo has not identified as Accused Instrumentalities, by product number or otherwise, any Samsung set-top boxes available via DirecTV. Samsung therefore understands that TiVo is not accusing and will not accuse any Samsung DirecTV set-top box. If this understanding is not accurate, please explain why TiVo failed to satisfy its P.R. 3-1

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obligations and immediately identify with the required specificity which Samsung set-top boxes provided via DirecTV or other cable or satellite providers TiVo contends practice an asserted claim.

Practicing Instrumentalities

TiVo's P.R. 3-1(f) disclosures for all four TiVo Asserted Patents reference only the '389 patent and identify the same TiVo products as practicing "each asserted claim of the '389 patent: Series1, Series2, Series2 DT, Series3 HD, TiVo HD, TiVo HD XL, TiVo Premiere, TiVo Premiere XL, TiVo Premiere 4, TiVo Premiere XL4/Elite, Comcast DVR with TiVo, TiVo Roamio, TiVo Roamio Plus, TiVo Roamio Pro, TiVo Mini, TiVo Bolt, and TiVo Preview."

Because TiVo repeatedly references the '389 patent, this appears to be a typographical error. Please advise as to whether this understanding is correct and, if so, please promptly correct this error.

Inappropriate Grouping of Accused Products

TiVo's identification of accused products is insufficient under P.R. 3-1. Specifically, P.R. 3-1(c) requires TiVo to provide "[a] chart identifying specifically where each element of each asserted claim is found within *each* Accused Instrumentality." TiVo's infringement contentions, however, provide only a single chart for various models of Samsung's set-top boxes and a single chart for myriad models of Samsung's mobile devices despite that TiVo's allegations center primarily on components that vary from device to device.

Moreover, TiVo's charts unreasonably mix and match discussions of and citations to allegedly included componentry. For example, in Exhibit E, TiVo cites to the presence of a Broadcom 7400 System on Chip ("SoC") for one claim element, while referring to a Broadcom 7405 SoC for other elements. By way of another example, in Exhibit G, TiVo identifies the Qualcomm S4 SoC and Exynos 4 SoC with respect to one element and the Qualcomm 400 SoC and Exynos 5 SoC for another element. Put simply, TiVo frequently fails to reasonably disclose an infringement theory for any single Samsung Accused Instrumentality.

This potpourri of otherwise vague descriptions of disparate components fails to provide Samsung with reasonable notice of TiVo's infringement allegations as required by P.R. 3-1. *See Computer Acceleration Corp. v. Microsoft Corp.*, 503 F. Supp. 2d 819, 822-25 (E.D. Tex. 2007) (striking plaintiff's infringement contentions for failing to create a separate chart for each accused product).

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Insufficient Disclosure of Infringement Theories

As explained in the examples below, TiVo's infringement contentions largely fail to provide reasonable notice as required by P.R. 3-1. Specifically, P.R. 3-1(c) requires TiVo to provide "[a] chart identifying *specifically* where each element of each asserted claim is found within each Accused Instrumentalities. . . . the identity of the structure(s), act(s), or material(s) in the Accused Instrumentalities that performs the claimed function." TiVo's infringement contentions, however, provide vague identifications or merely parrot the claim language for certain claim elements, thereby rendering it impossible to determine TiVo's infringement contentions. *See Davis-Lynch, Inc v. Weatherford Int'l, Inc.*, No. 6:07-cv-559-LED-JDL, 2009 WL 81874, at *6 (E.D. Tex. Jan. 12, 2009) (rejecting claim charts that "do little more than parrot the claim language"). By way of example:

'389 Patent

1. Ex. A: As to claims 1 and 32, TiVo fails to identify specifically where TiVo believes the claimed "Input Section" is found within the Accused Instrumentalities, instead displaying without explanation a diagram of the entire Accused Instrumentality.
2. Ex. A: As to claims 1 and 32, for the "wherein said Media Switch parses said MPEG stream . . ." limitation, TiVo fails to identify any specific block, subsystem, or portion of the "BCM74xx" that it contends corresponds to the claimed Media Switch.
3. Ex. A: As to claims 1 and 32, for the "said MPEG stream is separated into its video and audio components" limitation, TiVo concludes that "packets are discretely analyzed," without identifying where TiVo asserts the accused functionality occurs. TiVo similarly fails to provide reasonable notice as to how TiVo believes that this alleged functionality shows that an "MPEG stream is separated into its video and audio components" as that limitation has been construed and applied by the Federal Circuit in *TiVo, Inc. v. EchoStar Comm'cns Corp.*, 516 F.3d 1290 (Fed. Cir. 2008) ("*EchoStar*"). TiVo likewise fails to provide any specificity regarding its vague conclusion that "the video and audio packets of the MPEG data are separated when they are sent to separate decoders," and fails to provide reasonable notice as to how TiVo believes that this alleged functionality shows that an "MPEG stream is separated into its video and audio components," as that limitation has been construed and applied by the Federal Circuit in *EchoStar*. TiVo also fails to provide any reasonable notice as to what relevance TiVo contends the BCM7041 component (vaguely referenced on pages 8-9) has with respect to this limitation: does TiVo

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- contend that the BCM7041 satisfies the “said MPEG stream is separated into its video and audio components” limitation?
4. Ex. A: As to claims 1 and 32, TiVo fails to provide reasonable notice of or otherwise identify where it believes the accused instrumentalities contain the claimed “Output Section” or perform the claimed function of “extract[ing] said video and audio components from said storage device.”
 5. Ex. A: As to claims 1 and 32, for the “said Output Section assembles said video and audio components into an MPEG stream” limitation, TiVo entirely fails to set forth any contentions that this limitation is present in any Accused Instrumentality as it has been construed and applied by the Court of Appeals for the Federal Circuit in *EchoStar*. For example, TiVo’s infringement contentions contain a conclusory allegation that “packetized elementary streams are constructed when read from the disk and/or before being sent to a decoder,” which, even if true, flatly fails to meet the plain language of this limitation, particularly as construed and applied in *EchoStar*. Elsewhere, TiVo simply parrots the claim language, stating “these video and audio data are assembled into an MPEG stream” and citing a bare block diagram, but fails to provide reasonable notice as to how TiVo contends that allegedly happens in the Accused Instrumentalities.
 6. Ex. A: As to claims 1 and 32, for the “wherein said Output Section sends said MPEG stream to a decoder” limitation, TiVo simply parrots the claim language, failing to provide any reasonable notice as to its contentions regarding what constitutes “said MPEG stream” and what constitutes the “decoder” to which the reassembled MPEG stream is sent.
 7. Ex. A: As to claims 31 and 61, TiVo fails to show where it contends the accused “source object” resides in the Accused Instrumentalities. Specifically:
 - a. TiVo improperly parrots claim language and vaguely refers to “collection of data and operations,” but fails to identify with any specificity or reasonable notice to what “collection of data and operations” TiVo is referring; and
 - b. TiVo vaguely contends that data is moved from BCM3255 to “memory including DRAM,” but fails to identify any support for its contention, much less any specific “collection of data and operations” that allegedly moves data from BCM3255 to DRAM. These vague references to unidentified “collections of data and operations” or “hardware and software” directly inhibit Samsung’s ability to reasonably identify and collect specific source code and other technical documents pursuant to P.R. 3-4(a), or even determine if the relevant source code is within Samsung’s possession or a third party component manufacturer’s possession.

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8. Ex. A: As to claims 31 and 61, TiVo fails to identify where it contends the accused “providing a transform object . . .” functionality is found in the Accused Instrumentalities. Instead, TiVo improperly parrots the claim language and vaguely refers to a “collection of data and operations,” but fails to identify with any specificity or reasonable notice to what “collection of data and operations” TiVo is referring. Again, this vague and open-ended reference to an unidentified “collection of data and operations” directly inhibits Samsung’s ability to reasonably identify and collect specific source code and other technical documents pursuant to P.R. 3-4(a) or even determine if such technical information is within its possession.
9. Ex. A: As to claims 31 and 61, TiVo fails to show where the accused “wherein said source object obtains a buffer . . .” functionality resides in the Accused Instrumentalities. Specifically:
 - a. TiVo improperly parrots claim language, failing to provide any reasonable notice of (i) what TiVo contends to be the source object and the transform object and (ii) how and where TiVo contends any buffer is obtained from the transform object by the source object; and
 - b. TiVo vaguely alleges that the Accused Instrumentalities convert video data in data streams “during selection of a particular channel” and “recording a television program,” but provides no explanation or reasonable notice as to how it contends either selecting a channel or recording a program results in the claimed “convert[ing] video data into data streams.”
10. Ex. A: As to claims 31 and 61, TiVo fails to show where the accused “wherein said source object is automatically flow controlled . . .” and “wherein said sink object is automatically flow controlled . . .” functionalities reside in the Accused Instrumentalities. Specifically:
 - a. TiVo vaguely refers to “self-regulating data flow” without any explanation of how any data flow in the Accused Instrumentalities is “self-regulating” or what, if any, specific software is allegedly responsible for such “self-regulating”;
 - b. TiVo vaguely refers to “DRAM” without any reasonable notice of how the presence of “DRAM” has any relation to the claimed “automatic flow control;” and
 - c. TiVo vaguely states that “there is no significant corruption of data due to overwriting or lack of self-regulation” without any explanation as to how this allegation has any relation to the claim limitation. To the extent that TiVo contends this alleged result or functionality is controlled by specific software, TiVo’s vague allegations and generalizations again directly inhibit Samsung’s ability to reasonably identify and collect specific source code and other

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technical documents pursuant to P.R. 3-4(a) or even determine if such technical information is within its possession.

11. **Ex. A: As to claims 31 and 61, TiVo fails to show where it contends the accused “providing a sink object . . .” functionality resides in the Accused Instrumentalities.** Instead, TiVo improperly parrots the claim language and vaguely refers to “collection of data and operations,” but fails to identify with any specificity or reasonable notice to what “collection of data and operations” TiVo is referring. Again, this vague and open-ended reference to an unidentified “collection of data and operations” directly inhibits Samsung’s ability to reasonably identify and collect specific source code and other technical documents pursuant to P.R. 3-4(a) or even determine if such technical information is within its possession.
12. **Ex. A: As to claims 31 and 61, TiVo fails to disclose where it contends the accused “providing a control object . . .” functionality resides in the Accused Instrumentalities.** Instead, TiVo improperly parrots the claim language and vaguely refers to “collection of data and operations,” but fails to identify with any specificity or reasonable notice to what “collection of data and operations” TiVo is referring. Again, this vague and open-ended reference to an unidentified “collection of data and operations” directly inhibits Samsung’s ability to reasonably identify and collect specific source code and other technical documents pursuant to P.R. 3-4(a) or even determine if such technical information is within its possession.
13. **Ex. A: As to claims 31 and 61, TiVo fails to show where the accused “wherein said control object sends flow command events . . .” functionality resides in the Accused Instrumentalities.** Instead, TiVo improperly parrots the claim language and advances wholly conclusory allegations without any specificity, including (i) failing to indicate any alleged “flow command events” or sending of “flow command events” to each of the source, transform, and sink objects and (ii) vaguely stating, without support, that unidentified “hardware and software” sends command events to yet again unidentified “other portions of the software.” Again, these vague and open-ended references to an unidentified “collection of data and operations” or “hardware and software” directly inhibits Samsung’s ability to reasonably identify and collect specific source code and other technical documents pursuant to P.R. 3-4(a) or even determine if such technical information is within its possession.
14. **Ex. B: As to claims 31 and 61, TiVo fails to show where the accused “simultaneous storage and play back of multimedia data” functionality resides in the Accused Instrumentalities. Specifically:**
 - a. TiVo fails to provide any reasonable notice, even by way of example, of what specific functionality within any of the Accused Instrumentalities TiVo is

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referring to when it alleges that “the Device can store video while simultaneously playing back a previously stored video file;”

- b. The same is true for TiVo’s allegation that “the Device can store a video file . . . while at the same time playing back that same file,” for which TiVo provides no indication of what exemplary device performs this function (e.g., no screen shots, no identification of any software or application that is allegedly involved); and
- c. The same is true for TiVo’s allegation that “the Device can store a video file while at the same time playing back that same file.”

15. Ex. B: As to claims 31 and 61, TiVo fails to identify where it contends the accused “input device” and “physical data source” functionalities reside in the Accused Instrumentalities. Specifically:

- a. TiVo’s vague references to user guide excerpts showing a camera on a mobile phone only foster confusion and ambiguity: does TiVo contend that the camera on a mobile phone constitutes an “input device” and/or “physical data source?”;
- b. TiVo appears to contend that a USB port constitutes an “input device” and that it “creates a transport stream of video in the process of transferring such a file from a PC,” but fails to provide any explanation of how it contends a transport stream is created by virtue of transferring a file from a PC; and
- c. TiVo vaguely refers to a “mobile communication system which receives video and audio data from a mobile network,” but provides no explanation of what a “mobile communication system” is or what specific components thereof it contends constitute either the “input device” or “physical data source;” and
- d. TiVo vaguely refers to a “multicore subsystem” and “multicore processing unit,” but does not provide any explanation as to how many of these components allegedly satisfy the claim limitation beyond a conclusory allegation that they “accept[] input data, analyze[] the video and audio, and temporarily store[] the data in internal and RAM buffers.”

16. Ex. B: As to claims 31 and 61, TiVo fails to show where it contends the accused “source object” resides in the Accused Instrumentalities. Instead, TiVo improperly parrots the claim language. Further, TiVo vaguely and ambiguously states that a “multimedia subsystem . . . extracts video and audio data from the physical data source,” but does not provide any explanation or identification of what it contends constitutes the “multimedia subsystem” and what it contends constitutes the “physical data source” from which the “multimedia subsystem” allegedly extracts video and audio data.

17. Ex. B: As to claims 31 and 61, TiVo fails to identify where it contends the accused “transform object” resides in the Accused Instrumentalities. Instead, TiVo improperly

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- parrots the claim language and vaguely refers to “a collection of data and operations,” without any specificity for these generic allegations. Again, this vague and open-ended reference to an unidentified “collection of data and operations” directly inhibits Samsung’s ability to reasonably identify and collect specific source code and other technical documents pursuant to P.R. 3-4(a) or even determine if such technical information is within its possession.
18. **Ex. B:** As to claims 31 and 61, TiVo fails to show where it contends the accused “wherein said source object obtains a buffer . . .” functionality resides in the Accused Instrumentalities. Instead, TiVo improperly parrots the claim language. Further, TiVo vaguely references “other hardware and software that effectively utilizes buffers and memory to perform the claimed operations,” but provides no specificity or explanation as to what this “other hardware and software” is or any indication of an otherwise good faith basis for this generic assertion. Again, this vague and open-ended reference to “other hardware and software” directly inhibits Samsung’s ability to reasonably identify and collect specific source code and other technical documents pursuant to P.R. 3-4(a) or even determine if such technical information is within its possession.
19. **Ex. B:** As to claims 31 and 61, TiVo fails to show where it contends the accused “wherein said source object is automatically flow controlled . . .” and “wherein said sink object is automatically flow controlled . . .” limitations reside in the Accused Instrumentalities. Specifically:
- TiVo vaguely refers to “self-regulating data flow” without any explanation of how any data flow in the Accused Instrumentalities is “self-regulating;”
 - TiVo vaguely refers to “DRAM” without any reasonable notice of how the presence of “DRAM” has any relation to the claimed “automatic flow control;”
 - TiVo includes a citation to a DMA controller without any accompanying explanation or contentions linking the alleged “DMA controller” to the claimed function of “automatic flow control;” and
 - TiVo vaguely states that “there is no significant corruption of data due to overwriting or lack of self-regulation” without any explanation as to how this allegation has any relation to the claim limitation. To the extent that TiVo contends this alleged result or functionality is controlled by specific software, TiVo’s vague allegations and generalizations again directly inhibit Samsung’s ability to reasonably identify and collect specific source code and other technical documents pursuant to P.R. 3-4(a) or even determine if such technical information is within its possession.
20. **Ex. B:** As to claims 31 and 61, TiVo fails to show where it contends the accused “sink object” and corresponding functionality reside in the Accused Instrumentalities. In fact, TiVo fails to identify any alleged “sink object,” instead improperly parroting the

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- claim language and referring to a missing excerpt on page 28. Again, TiVo's failure to provide reasonable notice of its infringement theories and failure to identify any specific software directly inhibits Samsung's ability to reasonably identify and collect specific source code and other technical documents pursuant to P.R. 3-4(a) or even determine if such technical information is within its possession.
21. Ex. B: As to claims 31 and 61, TiVo fails to show where it contends the accused "wherein said decoder converts . . ." functionality resides in the Accused Instrumentalities, instead improperly parroting claim language.
22. Ex. B: As to claims 31 and 61, TiVo fails to show where it contends the accused "control object" resides in the Accused Instrumentalities, instead improperly parroting the claim language and advancing wholly conclusory allegations without specificity. Again, TiVo's failure to provide reasonable notice of its infringement theories directly inhibits Samsung's ability to reasonably identify and collect specific source code and other technical documents pursuant to P.R. 3-4(a) or even determine if such technical information is within its possession.
23. Ex. B: As to claims 31 and 61, TiVo fails to show where it contends the accused "wherein said control object sends flow command events . . ." functionality resides in the Accused Instrumentalities, instead improperly parroting the claim language and advancing wholly conclusory allegations without any support or specificity, including failing to indicate any alleged "flow command events" or sending of "flow command events" to each of the source, transform, and sink objects. Again, TiVo's failure to provide reasonable notice of its infringement theories directly inhibits Samsung's ability to reasonably identify and collect specific source code and other technical documents pursuant to P.R. 3-4(a) or even determine if such technical information is within its possession.

'195 Patent

1. Ex. C: As to claims 58, 78, and 119, TiVo fails to identify a structure within the Accused Instrumentalities that it contends corresponds to the "providing cache access means . . ." limitation, instead making bare references to a "controller" and "playback pointer" without any indication of what inside the Accused Instrumentalities allegedly constitutes a "controller" or "playback pointer."
2. Ex. C: As to claims 58, 78, and 119, TiVo fails to identify a structure within the Accused Instrumentalities that it contends corresponds to the "providing cache control means . . ." limitation, instead making bare references to a "controller" and "associated

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- circuitry” without any support or indication of what inside the Accused Instrumentalities it contends constitutes a “controller” or “associated circuitry.”
3. **Ex. C: As to claims 58, 78, and 119, TiVo fails to identify a structure within the Accused Instrumentalities that corresponds to the “providing synchronization means . . .” limitation,** wholly failing to provide any support for its generic assertions.
 4. **Ex. C: As to claims 58, 78, and 119, as to the “wherein said linear cache discards any information that falls outside of said window” limitation,** TiVo fails to explain its generic allegation that any information is deleted from the alleged “window” by showing where it contends this feature exists in the Accused Instrumentalities.
 5. Ex. C: As to claim 119, TiVo fails to address the “providing cache access means . . .” limitation, which is directed to a plurality of “linear caches.” Instead, TiVo ambiguously refers to “the linear cache,” where the claim recites performing operations with respect to multiple “linear caches.”
 6. Ex. C: As to claim 119, TiVo fails to address the “providing cache control means for controlling a rate of streaming access from said linear caches” limitation, which is directed to “controlling a rate of streaming access *from* said linear caches.” Instead, TiVo ambiguously refers to controlling a rate of streaming access “to” the linear cache.
 7. Ex. C: As to claim 119, as to the “wherein said linear cache maintains a window . . .” limitation, TiVo refers to “the linear cache” and “the data stream,” but fails to identify to which of the claimed “linear caches” and “data streams” it is referring.
 8. Ex. C: As to claims 59, 78, and 96, TiVo fails to identify any structure allegedly corresponding to the claimed “cache control means.”
 9. Ex. C: As to claims 59, 78, and 96, TiVo fails to identify where it contends the claimed “clock events” are found in the Accused Instrumentalities or identify anything allegedly being sent by the claimed “cache control means” to the claimed “cache access means.”
 10. Ex. C: As to claims 59, 78, and 96, TiVo generically alleges that the Accused Instrumentalities perform “increasing or decreasing the decoder system clock rate,” but does not provide reasonable notice of how (even assuming the accuracy of TiVo’s allegations) “increasing or decreasing the decoder system clock rate” has any relation to these claims.

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11. Ex. C: As to claims 60, 79, 121, and 122, TiVo fails to identify any structure allegedly corresponding to the stream capture means.
12. Ex. C: As to claims 60, 79, 121, and 122, TiVo improperly parrots claim language, failing to provide reasonable notice of TiVo's contentions.
13. Ex. C: As to claims 60, 79, 121, and 122, TiVo vaguely cites a block diagram without any annotations or indication of what in the block diagram corresponds or has any relevance to the claim language.
14. Ex. C: As to claims 64 and 83, TiVo fails to identify any structure allegedly corresponding to the presentation means.
15. Ex. C: As to claims 64 and 83, TiVo fails to identify the alleged "storage device" in the Accused Instrumentalities.
16. Ex. C: As to claims 64 and 83, TiVo refers to an alleged "video decoder," but fails to provide any reasonable notice of how TiVo contends that an alleged "video decoder" satisfies any portion of the claims.
17. Ex. C: As to claims 73, 75, 76, 77, 92, 94, 95, and 96, TiVo wholly fails to provide any explanation of its generic allegations, instead improperly parroting the claim language.

'476 Patent

1. Ex. D: As to claim 1, TiVo fails to identify specifically where TiVo believes the claimed "Input Section" is found within the accused products or how or where it allegedly "creates a transport stream;" instead TiVo merely displays pictures of the entirety of the interior of the Accused Instrumentality and a diagram of the entire Accused Instrumentality.
2. Ex. D: As to claim 1, for the "media switch includes: a host controller, a DMA controller, [and] a bus arbiter" limitations, TiVo fails to identify how it contends the accused "media switch includes" these disparate and independent components.
3. Ex. D: As to claim 7, TiVo fails to identify which member(s) of the eight-member group recited in the claim (e.g., a host bridge, a memory controller) it contends are allegedly present in the Accused Instrumentalities and where those elements allegedly reside.

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4. Ex. D: As to claim 8, TiVo fails to identify an alleged “transport stream interface” or where it contends the “transport stream interface” of the claimed “transport stream decoder/graphics subsystem” receives the transport stream from the claimed input section.
5. Ex. D: As to claim 9, TiVo fails to identify where or how it contends the Accused Instrumentalities allegedly demultiplex into separate audio and video packet streams and instead merely parrots claim language and displays a diagram of an entire Accused Instrumentality.
6. Ex. D: As to claim 10, TiVo fails to identify where or how it contends the claimed SDRAM is connected to the accused transport stream decoder/graphics subsystem, as the claim requires.
7. Ex. D: As to claim 13, TiVo fails to identify how or where it contends the alleged “front panel navigation cluster is coupled to a GPIO included in the alleged media switch.”
8. Ex. D: As to claim 14, TiVo fails to disclose how or where it contends any of the Accused Instrumentalities allegedly infringe this claim, instead improperly parroting the claim language with no explanation or reasonable notice of TiVo’s infringement allegations.
9. Ex. E: As to claim 1, TiVo fails to identify what it contends to be the accused “input section” or where it allegedly resides in the Accused Instrumentalities. Specifically:
 - a. TiVo’s vague references to user guide excerpts showing a camera on a mobile phone only foster confusion and ambiguity: does TiVo contend that the camera on a mobile phone constitutes an “input section?”; and
 - b. TiVo appears to contend that a USB port constitutes an “input section” and that it “creates a transport stream from the input signal” but TiVo fails to provide any explanation of how or where it contends a transport stream is created by virtue of transferring a file from a PC.
10. Ex. E: As to claim 1, TiVo fails to specifically identify where it contends the alleged “processor” is found on various Snapdragon or Exynos SoCs included within the Accused Instrumentalities, instead stating merely that the Accused Devices contain SoC devices and that those devices allegedly contain multiple “CPUs.” TiVo fails entirely to identify specifically where it contends the claimed “processor” is found.

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11. Ex. E: As to claim 1, TiVo fails to identify where it contends the claimed “media switch” is found in the Accused Instrumentalities containing Exynos SoCs, but rather TiVo improperly and insufficiently recites that the Accused Instrumentalities provide multimedia features.
12. Ex. E: As to claim 1, with respect to the “media switch operative to interface a plurality of system components” limitation, TiVo fails to identify what it contends are the claimed “plurality of system components” or where or how it contends the alleged “media switch” interfaces with these undisclosed components.
13. Ex. E: As to claim 1, for the “media switch includes: a host controller, a DMA controller, [and] a bus arbiter” limitation, TiVo fails to identify how it contends the accused “media switch includes” these disparate and independent components.
14. Ex. E: As to claim 1, with respect to the Accused Instrumentalities that include a Qualcomm Snapdragon SoC, TiVo fails to identify where it contends the claimed “host controller,” or “DMA controller” can be found.
15. Ex. E: As to claim 1, TiVo fails to identify where it contends the claimed “bus arbiter” resides in the Accused Instrumentalities, and TiVo instead states its conclusion without the requisite specificity that the Accused Instrumentalities contain “several data busses[, and] [t]hese busses will be controlled with a bus arbiter.”
16. Ex. E: As to claim 1, with respect to the Accused Instrumentalities that include a Qualcomm Snapdragon SoC, TiVo fails entirely to identify where it contends the claimed “multimedia data stream processor” is found.
17. Ex. E: As to claim 1, TiVo fails to identify how it contends the accused media switch allegedly operates asynchronously from the accused processor, as the claim requires. Instead, as to Accused Instrumentalities containing Qualcomm Snapdragon SoCs, TiVo merely points to the operation of various cores in the SoC, with no reference to the alleged media switch or how it allegedly operates asynchronously from the alleged processor.
18. Ex. E: As to claim 7, TiVo fails to specify which claim elements of the eight-member group recited in the claim (e.g., a host bridge, a memory controller) TiVo contends are allegedly present in the Accused Instrumentalities or where it contends those elements can be found.

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19. Ex. E: As to claim 8, TiVo fails to identify an alleged “transport stream interface” or where it contends the “transport stream interface” of the claimed “transport stream decoder/graphics subsystem” receives the transport stream from the claimed input section.
20. Ex. E: As to claim 9, TiVo fails to identify where or how it contends the Accused Instrumentalities allegedly demultiplex into separate audio and video packet streams and instead merely parrots claim language and displays a block diagram of the entirety of one variety of an Accused Instrumentality.
21. Ex. E: As to claim 10, TiVo fails to identify where or how it contends the claimed SDRAM is connected to the accused transport stream decoder/graphics subsystem, as the claim requires.

'472 Patent

1. Ex. F: As to claim 1, TiVo fails to identify specifically where TiVo believes the claimed “Input Section” is found within the Accused Instrumentalities; instead TiVo shows pictures of the entirety of the interior of the Accused Instrumentality and a diagram of the entire Accused Instrumentality.
2. Ex. F: As to claim 1, TiVo fails to identify where it contends the Accused Instrumentalities contain a first data bus connecting the claimed decoder subsystem to the claimed processor, stating only that the decoder system communicates with the processor “through DRAM memory” and that the memory is connected via “several busses.” TiVo then displays a diagram depicting a “BVN,” without identifying how it contends that BVN could satisfy the claim element’s requirement that the claimed decoder subsystem connects to the claimed processor via the “first data bus.”
3. Ex. F: As to claim 1, for the “media manager includes: a host controller, a DMA controller, [and] a bus arbiter” limitation, TiVo fails to identify how it contends the accused “media manager includes” these disparate and independent components.
4. Ex. F: As to claim 1, TiVo fails to identify where it contends the claimed “second data bus” is found within the Accused Instrumentalities. TiVo points to a “GISB bus” over which TiVo contends the claim elements allegedly communicate. But TiVo fails to identify where or how it contends the alleged GISB bus connects the accused decoder subsystem to the alleged media switch as the claim requires.

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5. Ex. F: As to claim 1, TiVo fails entirely to identify anything it contends constitutes the claimed “output section” or where TiVo contends that output section is found within the Accused Instrumentalities.
6. Ex. F: As to claim 12, TiVo fails to identify an alleged “transport stream interface” or where it contends the “transport stream interface” of the claimed “transport stream decoder/graphics subsystem” receives the transport stream from the claimed input section.
7. Ex. F: As to claim 14, TiVo fails to identify which combination of the claimed group members (e.g., a host bridge; a memory controller) TiVo contends are allegedly present in the Accused Instrumentalities or where it contends those elements are found.
8. Ex. F: As to claim 15, TiVo fails to identify an alleged “transport stream interface” or where it contends the “transport stream interface” of the claimed “transport stream decoder/graphics subsystem” receives the transport stream from the claimed input section.
9. Ex. F: As to claim 16, TiVo fails to identify where or how it contends the Accused Instrumentalities allegedly demultiplex into separate audio and video packet streams and instead merely parrots claim language and displays a block diagram of the entirety of one variety of an Accused Instrumentality.
10. Ex. F: As to claim 20, TiVo fails to identify where or how it contends the claimed SDRAM is connected to the accused transport stream decoder/graphics subsystem, as the claim requires.
11. Ex. F: As to claim 23, TiVo fails to disclose how or where it contends any of the Accused Instrumentalities allegedly infringe this claim, instead improperly parroting the claim language with no explanation or reasonable notice of TiVo’s infringement allegations.
12. Ex. F: As to claim 30, TiVo fails to identify how or where it contends the alleged “front panel navigation cluster is coupled to a GPIO included in the alleged media switch.”
13. Ex. G: As to claim 1, TiVo fails to identify what it contends to be the accused “input section” or where it allegedly resides in the Accused Instrumentalities. Specifically, TiVo’s vague references to user guide excerpts showing a camera on a mobile phone

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only foster confusion and ambiguity: does TiVo contend that the camera on a mobile phone constitutes an “input section”?

14. Ex. G: As to claim 1, TiVo fails to specifically identify where it contends the alleged “processor” is found on various Snapdragon or Exynos SoCs included within the Accused Instrumentalities, instead stating merely that the Accused Devices contain SoC devices and that those devices allegedly contain CPUs (plural). TiVo fails to provide reasonable notice of specifically where it contends the claimed “processor” is found.
15. Ex. G: As to claim 1, TiVo fails to identify where it contends the “first data bus” is found within the Accused Instrumentalities or how it allegedly connects the claimed decoder subsystem to the claimed processor. Rather, TiVo merely states that “media swits [sic] will communicate with other system components using several data busses.”
16. Ex. G: As to claim 1, TiVo likewise fails to identify what it contends constitutes the claimed “second data bus,” where or how it contends that second data bus connects the accused decoder subsystem to the accused media switch, or how that alleged second data bus differs from the claimed first data bus. TiVo instead states its conclusion without the requisite specificity that the accused “media swits [sic] will communicate with other system components using several data busses.”
17. Ex. G: As to claim 1, TiVo fails to identify where it contends the claimed “media switch” is found in the Accused Instrumentalities containing Exynos SoCs, but rather TiVo merely recites that the Accused Instrumentalities provide multimedia features.
18. Ex. G: As to claim 1, TiVo fails to identify how it contends the accused media switch allegedly operates asynchronously from the accused processor, as the claim requires. Instead, as to Accused Instrumentalities containing Qualcomm Snapdragon SoCs, TiVo merely points to the operation of various cores in the SoC, with no reference to the alleged media switch or how it allegedly operates asynchronously from the alleged processor.
19. Ex. G: As to claim 1, with respect to the “media switch operative to interface a plurality of system components” limitation, TiVo fails to identify what it contends are the claimed “plurality of system components” or where or how it contends the alleged “media switch” interfaces with these undisclosed components.

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20. Ex. G: As to claim 1, for the “media manager includes: a host controller, a DMA controller, [and] a bus arbiter” limitations, TiVo fails to identify how it contends the accused “media manager includes” these disparate and independent components.
21. Ex. G: As to claim 1, with respect to the Accused Instrumentalities that include a Qualcomm Snapdragon SoC, TiVo fails to identify where it contends the claimed “host controller” or “DMA controller” are found.
22. Ex. G: As to claim 1, TiVo fails to identify where it contends the claimed “bus arbiter” resides in the Accused Instrumentalities, and TiVo instead states its conclusion and without the requisite specificity that the accused “media swits [sic] will communicate with other system components using several data busses. These busses will be controlled with a bus arbiter.”
23. Ex. G: As to claim 1, TiVo fails entirely to identify anything it contends constitutes the claimed “output section” or where TiVo contends that output section can be found within the Accused Instrumentalities.
24. Ex. G: As to claim 12, TiVo fails to identify an alleged “transport interface” or where it contends the “transport interface” receives the transport stream from the claimed input section.
25. Ex. G: As to claim 14, TiVo fails to specify which claim elements of the eight-member group recited in the claim (e.g., a host bridge, a memory controller) TiVo contends are allegedly present in the Accused Instrumentalities or where it contends those elements can be found.
26. Ex. G: As to claim 15, TiVo fails to identify an alleged “transport stream interface” or where it contends the “transport stream interface” of the claimed “transport stream decoder/graphics subsystem” receives the transport stream from the claimed input section.
27. Ex. G: As to claim 16, TiVo fails to identify where or how it contends the Accused Instrumentalities allegedly demultiplex into separate audio and video packet streams and instead merely parrots claim language and displays a block diagram of the entirety of one variety of an Accused Instrumentality.

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28. Ex. G: As to claim 20, TiVo fails to identify where or how it contends the claimed SDRAM is connected to the accused transport stream decoder/graphics subsystem, as the claim requires.

We look forward to your prompt response regarding the above-described issues.

Respectfully,

A handwritten signature in black ink, appearing to read "Erin Alper", written in a cursive style.

Erin Alper

cc: Sam Baxter, Melissa Smith